

indy.ST25.txt
SEQUENCE LISTING

<110> University of Connecticut

Helfand, Stephan L

Reenan, Robert A

Rogina, Blanka

<120> Polynucleotides Encoding Cellular Transporters and Methods of Use Thereof

<130> UCT-0020

<150> 60/255,013

<151> 2000-12-12

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<170> PatentIn version 3.1

<210> 1

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<212> DNA

<213> Drosophila melanogaster

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<301> Blanka Rogina, Robert A. Reenan, Steven P. Nilsen and Stephen L. Helfand

<302> Extended Life-Span Conferred by Cotransporter Gene Mutations in Drosophila

<303> Science

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 aac ttc ttc gct aac cac tgg aag gga ttg gtt gtg ttc ctg gtg ccg 96
 Asn Phe Phe Ala Asn His Trp Lys Gly Leu Val Val Phe Leu Val Pro
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 ctg cta tgt ctg cct gtt atg ctg cta aac gaa ggc gcc gaa ttt cgg 144
 Leu Leu Cys Leu Pro Val Met Leu Leu Asn Glu Gly Ala Glu Phe Arg
 35 40 45
 tgc atg tac ctc ctt ttg gta atg gcc ata ttt tgg gtt acg gaa gcc 192
 Cys Met Tyr Leu Leu Leu Val Met Ala Ile Phe Trp Val Thr Glu Ala
 50 55 60
 ttg cct ctc tat gtg acg tcc atg ata ccg att gtg gcc ttc cca ata 240
 Leu Pro Leu Tyr Val Thr Ser Met Ile Pro Ile Val Ala Phe Pro Ile
 65 70 75 80
 atg ggt ata atg agc tcg gat cag act tgc cgc ttg tac ttc aag gat 288
 Met Gly Ile Met Ser Ser Asp Gln Thr Cys Arg Leu Tyr Phe Lys Asp
 85 90 95
 acg ctg gtg atg ttc atg ggc ggc att atg gtc gcc ctg gct gtg gag 336
 Thr Leu Val Met Phe Met Gly Gly Ile Met Val Ala Leu Ala Val Glu
 100 105 110
 tac tgt aat cta cac aaa cgt ctt gcc ttg agg gta atc cag atc gtg 384
 Tyr Cys Asn Leu His Lys Arg Leu Ala Leu Arg Val Ile Gln Ile Val
 115 120 125
 ggc tgc agt ccc cgc aga tta cac ttt ggc ctc atc atg gtt aca atg 432
 Gly Cys Ser Pro Arg Arg Leu His Phe Gly Leu Ile Met Val Thr Met
 130 135 140
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 Phe Leu Ser Met Trp Ile Ser Asn Ala Ala Cys Thr Ala Met Met Cys
 145 150 155 160
 ccg att atc caa gcc gtg ctg gag gag ctg cag gct cag ggt gtc tgc 528
 Pro Ile Ile Gln Ala Val Leu Glu Glu Leu Gln Ala Gln Gly Val Cys
 165 170 175
 aaa atc aac cat gag cct caa tac caa atc gtt gga ggc aac aag aaa 576
 Lys Ile Asn His Glu Pro Gln Tyr Gln Ile Val Gly Gly Asn Lys Lys
 180 185 190

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tat Tyr	ctg Leu 210	ggc Gly	att Ile	gcc Ala	tac Tyr	gcc Ala 215	tcc Ser	tgc Ser	ctg Leu	ggt Gly	ggc Gly 220	tgt Cys	gga Gly	acc Thr	atc Ile	672
atc Ile 225	gga Gly	act Thr	gcc Ala	acc Thr	aat Asn 230	ctt Leu	acc Thr	ttc Phe	aag Lys	ggc Gly 235	atc Ile	tac Tyr	gag Glu	gct Ala	cgt Arg 240	720
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tgc Ser	gtg Val	cca Pro	tcc Ser 260	atg Met	ttg Leu	gtc Val	tac Tyr	acc Thr 265	ttg Leu	ctg Leu	aca Thr	ttc Phe	gtg Val 270	ttc Phe	ctg Leu	816
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gaa Glu	gtc Val 290	cag Gln	agg Arg	gga Gly	cga Arg	gag Glu 295	ggc Gly	gcc Ala	gat Asp	gtc Val	gcc Ala 300	aaa Lys	aag Lys	gtt Val	atc Ile	912
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cgt Arg	aac Asn	tct Ser 355	atg Met	ccc Pro	act Thr	att Ile	ttt Phe 360	gtc Val	gtc Val	gtc Val	atg Met	tgc Cys 365	ttc Phe	atg Met	ctg Leu	1104
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acc Thr	aag Lys	gtg Val	cca Pro	tgg Trp 405	ggt Gly	ctg Leu	gtg Val	ttc Phe	ctg Leu 410	ctt Leu	ggc Gly	ggt Gly	ggc Gly	ttc Phe 415	gct Ala	1248
ttg Leu	gcc Ala	gaa Glu	ggc Gly 420	agc Ser	aag Lys	cag Gln	agc Ser	ggc Gly 425	atg Met	gcc Ala	aag Lys	ctg Leu	att Ile 430	ggc Gly	aat Asn	1296
gct Ala	ctg Leu	att Ile	gga Gly	ttg Leu	aag Lys	gtt Val	ctg Leu	ccc Pro	aac Asn	tct Ser	gtc Val	ctc Leu	tta Leu	ctg Leu	gtg Val	1344

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465	470	475	480
gag atc cat cct ctg tac ctg atc ctg ccc gct ggc ttg gcc tgc agt Glu Ile His Pro Leu Tyr Leu Ile Leu Pro Ala Gly Leu Ala Cys Ser			1488
485	490	495	
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500	505	510	
ggc tat gcc aac att agg acg aag gac atg gcc att gct gga atc ggt Gly Tyr Ala Asn Ile Arg Thr Lys Asp Met Ala Ile Ala Gly Ile Gly			1584
515	520	525	
ccg acc atc att acc atc atc acc ctg ttt gtt ttc tgc caa acc tgg Pro Thr Ile Ile Thr Ile Ile Thr Leu Phe Val Phe Cys Gln Thr Trp			1632
530	535	540	
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<212> PRT

<213> Drosophila melanogaster

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			20					25					30		
Leu	Leu	Cys	Leu	Pro	Val	Met	Leu	Leu	Asn	Glu	Gly	Ala	Glu	Phe	Arg
		35					40					45			
Cys	Met	Tyr	Leu	Leu	Leu	Val	Met	Ala	Ile	Phe	Trp	Val	Thr	Glu	Ala
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Met Gly Ile Met Ser Ser Asp Gln Thr Cys Arg Leu Tyr Phe Lys Asp
85 90 95

Thr Leu Val Met Phe Met Gly Gly Ile Met Val Ala Leu Ala Val Glu
100 105 110

Tyr Cys Asn Leu His Lys Arg Leu Ala Leu Arg Val Ile Gln Ile Val
115 120 125

Gly Cys Ser Pro Arg Arg Leu His Phe Gly Leu Ile Met Val Thr Met
130 135 140

Phe Leu Ser Met Trp Ile Ser Asn Ala Ala Cys Thr Ala Met Met Cys
145 150 155 160

Pro Ile Ile Gln Ala Val Leu Glu Glu Leu Gln Ala Gln Gly Val Cys
165 170 175

Lys Ile Asn His Glu Pro Gln Tyr Gln Ile Val Gly Gly Asn Lys Lys
180 185 190

Asn Asn Glu Asp Glu Pro Pro Tyr Pro Thr Lys Ile Thr Leu Cys Tyr
195 200 205

Tyr Leu Gly Ile Ala Tyr Ala Ser Ser Leu Gly Gly Cys Gly Thr Ile
210 215 220

Ile Gly Thr Ala Thr Asn Leu Thr Phe Lys Gly Ile Tyr Glu Ala Arg
225 230 235 240

Phe Lys Asn Ser Thr Glu Gln Met Asp Phe Pro Thr Phe Met Phe Tyr
245 250 255

Ser Val Pro Ser Met Leu Val Tyr Thr Leu Leu Thr Phe Val Phe Leu
260 265 270

Gln Trp His Phe Met Gly Leu Trp Arg Pro Lys Ser Lys Glu Ala Gln
275 280 285

Glu Val Gln Arg Gly Arg Glu Gly Ala Asp Val Ala Lys Lys Val Ile
290 295 300

Asp Gln Arg Tyr Lys Asp Leu Gly Pro Met Ser Ile His Glu Ile Gln
305 310 315 320

FOOTER: 6242FOOT

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Val Met Ile Leu Phe Ile Phe Met Val Val Met Tyr Phe Thr Arg Lys
325 330 335

Pro Gly Ile Phe Leu Gly Trp Ala Asp Leu Leu Asn Ser Lys Asp Ile
340 345 350

Arg Asn Ser Met Pro Thr Ile Phe Val Val Val Met Cys Phe Met Leu
355 360 365

Pro Ala Asn Tyr Ala Phe Leu Arg Tyr Cys Thr Arg Arg Gly Gly Pro
370 375 380

Val Pro Thr Gly Pro Thr Pro Ser Leu Ile Thr Trp Lys Phe Ile Gln
385 390 395 400

Thr Lys Val Pro Trp Gly Leu Val Phe Leu Leu Gly Gly Gly Phe Ala
405 410 415

Leu Ala Glu Gly Ser Lys Gln Ser Gly Met Ala Lys Leu Ile Gly Asn
420 425 430

Ala Leu Ile Gly Leu Lys Val Leu Pro Asn Ser Val Leu Leu Leu Val
435 440 445

Val Ile Leu Val Ala Val Phe Leu Thr Ala Phe Ser Ser Asn Val Ala
450 455 460

Ile Ala Asn Ile Ile Ile Pro Val Leu Ala Glu Met Ser Leu Ala Ile
465 470 475 480

Glu Ile His Pro Leu Tyr Leu Ile Leu Pro Ala Gly Leu Ala Cys Ser
485 490 495

Met Ala Phe His Leu Pro Val Ser Thr Pro Pro Asn Ala Leu Val Ala
500 505 510

Gly Tyr Ala Asn Ile Arg Thr Lys Asp Met Ala Ile Ala Gly Ile Gly
515 520 525

Pro Thr Ile Ile Thr Ile Ile Thr Leu Phe Val Phe Cys Gln Thr Trp
530 535 540

Gly Leu Val Val Tyr Pro Asn Leu Asn Ser Phe Pro Glu Trp Ala Gln
545 550 555 560

Ile Tyr Ala Ala Ala Ala Leu Gly Asn Lys Thr His
565 570

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